

CLAIMS

What is claimed is:

1. A wall-mounted microwave oven for use in cooking food comprising:
a cabinet mounted at a rear surface thereof on a wall of a cooking space, and having a cooking chamber to cook the food therein, and a machine room to house a plurality of electrical components for use in cooking the food, and which is isolated from the cooking chamber;
an exhaust path to exhaust contaminated air generated from a cooking appliance installed below the wall-mounted microwave oven;
a cooling-ventilation path to cool the machine room and to ventilate the cooking chamber; and
a blower fan assembly including a drive motor having a pair of shafts at both ends thereof to generate a rotating force, an exhaust fan joined to one shaft of the drive motor to create a suction force and a propulsive force to cause the contaminated air to flow along the exhaust path, and a cooling-ventilation fan joined to the other shaft of the drive motor to create a suction force and a propulsive force to cause air to flow along the cooling-ventilation path.
2. The wall-mounted type microwave oven as set forth in claim 1, wherein the cooling-ventilation fan is positioned on an upper surface of the machine room such that air discharged from the cooling-ventilation fan has a sufficient flow rate to efficiently cool the electrical components in the machine room.
3. The wall-mounted type microwave oven as set forth in claim 1, wherein the exhaust path includes a lower path section formed below the cooking chamber and the machine room to draw the contaminated air generated from the cooking appliance disposed below the microwave oven, a rising path section communicated with the lower path section to direct the contaminated air to an upside of the microwave oven, and an upper path section communicated with the rising path section to guide the contaminated air to the blower fan assembly.

4. The wall-mounted type microwave oven as set forth in claim 1, wherein the cooling-ventilation path includes a front inlet disposed on a front surface of the cabinet to allow outside air to be introduced into the cabinet, a front outlet disposed on the front surface of the cabinet to allow the air introduced into the cabinet to be discharged to the outside of the microwave oven, a suction path section to guide the air introduced through the front inlet, toward the cooling-ventilation fan, an exhaust path section to guide the air exiting from the machine room through the cooking chamber and toward the front outlet, a first communicating hole formed at a side surface of the machine room to allow the air discharged from the cooling-ventilation fan to be introduced into the machine room, a second communicating hole formed at a partition plate, which is positioned between the machine room and the cooking chamber to isolate the machine room and the cooking chamber from each other, to allow the machine room to communicate with the cooking chamber, and a third communicating hole to allow the cooking chamber to communicate with the exhaust path section.

5. The wall-mounted type microwave oven as set forth in claim 4, wherein the cooling-ventilation fan is closely positioned over the first communicating hole.

6. The wall-mounted type microwave oven as set forth in claim 1, wherein the cooling-ventilation fan includes a centrifugal fan to draw air axially and to discharge the air radially.

7. The wall-mounted type microwave oven as set forth in claim 1, wherein the blower fan assembly is rotatably mounted on the cabinet such that air discharged from the exhaust fan is selectively directed in any direction from the cabinet.

8. A mountable microwave oven comprising: ✓
a cabinet adapted to be mounted on a support surface having a cooking chamber and a machine room to house a plurality of electrical components for use in cooking food in the cooking chamber;
an exhaust path to exhaust air from a space below the mountable microwave oven;
a cooling-ventilation path to cool the machine room and ventilate the cooking chamber;
a blower fan assembly including a drive motor having a shaft rotated by the drive motor;

an exhaust fan connected to the shaft of the drive motor to create air flow along the exhaust path; and

a cooling-ventilation fan connected to the shaft of the drive motor to create air flow along the cooling-ventilation path.

9. The mountable microwave oven as in claim 8, wherein the blower fan assembly is attached to an upper surface of the cooking chamber and the cooling-ventilation fan is positioned over an opening in the machine room.

10. The mountable microwave oven as in claim 8, wherein the cooling ventilation path includes an air inlet positioned on the front of the cabinet.

11. The mountable microwave oven as in claim 8, wherein the machine room and the cooking chamber have openings in adjacent surfaces to permit airflow from the machine room to the cooking chamber.

12. A wall-mounted microwave oven comprising:
a cabinet adapted to be mounted on a support surface, and having a cooking chamber and a machine room that contains a plurality of electrical components for use in cooking food in a cooking chamber;
an exhaust path to exhaust air from a space below the wall-mounted microwave oven;
a cooling-ventilation path to cool the machine room and then ventilate the cooking chamber; and
a blower fan assembly including a drive motor having a shaft at each end, an exhaust fan joined to one shaft of the drive motor to create air flow along the exhaust path, and a cooling-ventilation fan joined to the other shaft of the drive motor to create air flow along the cooling-ventilation path.

13. The wall-mounted microwave oven as in claim 12, wherein the blower fan assembly is attached to an upper surface of the cooking chamber and the cooling-ventilation fan is positioned over an opening in the machine room.

14. The wall-mounted microwave oven as in claim 12, wherein the cooling ventilation

path includes an air inlet positioned on the front of the cabinet, and an air outlet to allow the ventilation air from the cooking chamber to be discharged out of the cabinet.

15. The wall-mounted microwave oven as in claim 12, wherein the machine room and the cooking chamber have openings in adjacent surfaces to permit airflow from the machine room to the cooking chamber.

16. The wall-mounted microwave oven as in claim 12, wherein the exhaust path is independent of the cooling-ventilation path.